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Experimental studies of vibrational abrading on innovative equipment with side shaking table

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Abstract

© 2016, International Journal of Pharmacy and Technology. All rights reserved.1. The article describes the experimental studies of vibroabrasive processing using innovative equipment with special vibration platforms needed to form a uniform path of abrasive particle movement. 2. This article presents the methods of research performance and the experimental evaluations of various technological parameters impact on the performance, the radius of a sharp edge rounding and an alloy surface layer quality. 3. The research results are presented concerning the metal removal across a container section depending on the displacement vibration sites for the samples from different alloys. The study of received dependences showed that the nature of metal removal change along a container perimeter is the same at the change of the process amplitude and frequency. The vibroabrasive processing without vibration sites revealed an uneven metal removal along the container section. 4. The study results showed that during the process of additional vibration sources as vibration site systems the performance of an vibroabrasive machine increases. At that the uniformity of metal removal increases. 5. The performed complex of experimental studies concerning the vibroabrasive processing on a vibration machine with the container fitted with side and central vibration platforms demonstrated the ability to provide the same metal removal rate, regardless of a sample location in a container and revealed the peculiarities of sample surface roughness.

Keywords

Abrasive particles, Vibration platforms, Vibroabrasive processing